

not always to the point, *e.g.* *Ann. des Sc.* (6), 1899; the series should be (8) and the volume ix.

The same number (vol. ii., part iv.) contains the third instalment of Prof. Hickson's report on the Alcyonaria of the Maldives, with descriptions of fifteen (including two Briareidæ described previously) species of Gorgonacea and one Pennatulid. The depths at which the material was obtained ranged from 0-43 fathoms, generally between 20 and 30 fathoms; two specimens of the Pennatulid (*Pennatula murrayi*) were taken at 43 fathoms in the Suvadiva Lagoon. A general feature of many of the sublittoral Alcyonaria is their extreme variability.

Other papers to which space does not permit us to do justice beyond mentioning them are by Major Alcock on Paguridæ (hermit-crabs), recording twenty-six species, of which nine are new to the Indian Ocean, five new to science; Mr. L. A. Borradaile on Hydroids, twenty-three species; Mr. A. E. Shipley on two parasites; and Mr. W. L. Distant enumerates twenty species of Rhynchota.

The first supplement contains reports by Messrs. A. O. Walker (Amphipoda), J. Stanley Gardiner (Madreporaria), E. T. Browne (Scyphomedusæ), D. Sharp (Coleoptera), W. E. Hoyle (Cephalopoda), and R. Norris Wolfenden (Copepoda). Dr. Hoyle describes a rare squid, *Ancistrochirus lesueuri*, which has luminous organs; one specimen only, the second on record, was found floating dead off one of the atolls. Dr. Wolfenden, whose paper is illustrated by folding plates, compares the oceanic copepods of the Indian Ocean with those of the Atlantic, an intermixture of species between these two great oceans being hindered by the water barrier formed by the Agulhas Current; the author also points to an extraordinary difference between the Copepod fauna of the Maldivian Group and that of the Gulf of Manaar, owing to the paucity of littoral forms in the former area.

The second supplement contains an article by Mr. R. I. Pocock (Myriopoda), an excellent systematic index, a subject-index, and Mr. Stanley Gardiner's concluding remarks. From his notes on the habits and distribution of the land animals, we learn that the mammals of the Maldives are three, the fruit bat or flying fox, *Pteropus medius* (not found in Minikoi), the musk shrew, *Crocidura murina*, and the rat, *Mus rattus*; the absence of insectivorous bats is noted as a singular deficiency. The study of the land fauna has confirmed his conclusion, previously based on geological grounds, "that the Maldives and Laccadives are recent lands."

As is known, Mr. Gardiner has crowned his labours in the Maldives by another expedition to the western part of the Indian Ocean, and when these results are made known the importance of his individual contribution to Indian oceanography will doubtless be fully appreciated.

The sumptuous monograph of the Indian Alcyonarians of the deep sea, by Prof. J. A. Thomson and Mr. W. D. Henderson, is a revelation of a wealth of new forms depicted in a manner which, for this class of illustration, is beyond praise. The

authors are alive to the æsthetic possibilities of their subjects, and although these are to some extent prejudiced by inevitable *post-mortem* changes, enough remains to delight the eye and attest the beauty that is hidden in the depths of the sea. Of the eighty-six species included in the collection, sixty-one are new; only nine belong to the Alcyonacea (leathery corals, chiefly shallow-water forms); eight of these are new, and two of them are made the types of new genera. There are forty-one species of Gorgonacea ("sea-fans") and twenty-eight species of Pennatulacea ("sea-pens" or "sea-feathers"), thus displaying a very great contrast with the shallow-water fauna of the Maldives. Two genera, *Symphodium* of the Stolonifera and *Umbellula* of the Pennatulacea, contain a multiplicity of specific forms which the authors admit may be only mutations. In view of this possibility, it is hard to accept so many names on an equal footing with those of undoubted and striking types.

Several comparative tables of the species of various genera are introduced in the course of the work, and these should prove of great service to future investigators. This method of tabulation is the right one, and is capable of improvement until a degree of perfection is attained. In written descriptions it happens frequently that the most obvious distinction between allied species is a difference of verbiage. Such banalities can be eliminated from tables; thus it is not much to learn that whereas the axis of *Umbellula durissima* is "nearly cylindrical," that of *Umbellula dura* is "almost cylindrical." The quotation of an isolated example of this kind is not meant to detract in any way from the total value of the tables.

A special property of many deep-sea Alcyonarians is their viviparity. The authors have found embryos in eight different species belonging to the three principal sections, Alcyonacea, Gorgonacea, and Pennatulacea. A full bibliography completes the present monograph, and one dealing with the littoral forms is promised later.

#### MEDICAL MEDITATIONS.

*Principia Therapeutica.* By Dr. Harrington Sainsbury. Pp. xi+244. (London: Methuen and Co., n.d.) Price 7s. 6d. net.

IN the biological sphere, to attain by means of scientific analysis to generalisations of such a breadth as to justify the term of "*Principia*" is an arduous task, even for generations of men, and is one which is far beyond us at present. The attainment of principles can only be by the long and fallible ways of observation, verified by the experimental method; and—in medicine at any rate—we can claim to have surveyed and mapped out no very wide areas as yet. Now if this be true of pathology, of therapeutics it is grievously truer, although on the lines of pharmacology much "triangulation" is now going forward. It is almost needless to guard these remarks by adding that no one probably is more aware of these limits of our knowledge than the

thoughtful writer of the book before us; he no doubt would be among the first to admit that his "Principia" are for the most part rather of the nature of ripe reflections on medicine—well-balanced cogitations by a wise, experienced, and instructed physician, regarding his art, as it were, from a height. Such thoughts obtain their generality rather by selection and proportion than by the slow accumulations of "induction." For our own part, we should have been disposed to prefer for this book some such a title as "Contemplations on Medicine."

Yet if we are indisposed to accept Dr. Sainsbury's mature reflections as "principia" in the sense of scientific theory, we are far from saying that it is useless to step thus backwards, or upwards, occasionally, so as to take more comprehensive glances of our science and art, and to delineate its larger features, so far as a slight sketch may go. By standing clear for a moment of the multiplicity of detail we gain a better sense of the proportions of the parts. The danger of this method is, of course, lest we mistake mere generalities for laws, dialectic for analysis of origins, and axioms of provisional service for verified and permanent conceptions. And it would be too much to say that Dr. Sainsbury has wholly escaped this danger; in some chapters his broad and detached way of looking at things is significant and illuminating, in others the attenuation of detail tends to vapidness, and thought is diluted until it becomes somewhat artificial and prosy. On the other hand, it may be just to say that no one could perhaps have penetrated farther in his way than Dr. Sainsbury does, and we have admitted that the change of attitude is needed occasionally to guide us and to give us wider bearings.

It would not be appropriate, then, to enter upon controversies with the author on matters of detail. It would not be difficult or unjust to do so, in many details, if the point of view were in itself more particular; but the author would be justified in answering that his reflections must be judged, not by items, but by the truth of the general point of view, and his answer would have weight. We forbear, then, from picking out from the joints of his edifice mortar which in not a few places seems to us to be unsound. Many a queried paragraph we may pass over in silence, as we must refrain from quoting many a happy one.

To turn to the larger aspects of the subjects, those general thoughts which the author had in view are often very well put; such as his conception of "compensation" as but part of the adaptation of stable moving equilibria to their environments, so that cardiac "compensation," for instance, too often conceived with more than a spice of teleology, is a re-adaptation of the same general kind as immunity to bacterial and other poisons, and so forth. The whole of chapter vi. is interesting, perhaps the best in the book; the relative incidence of remedies in time is dwelt upon, and the potentialities of combinations of drugs—a practice in recent years much neglected—are fully discussed, their mutual enhancements or cross-purposes considered, and an explanation given of the

chemical room left in the body for additional drugs as these may be in a solution saturated by one or more previously dissolved. Pp. 126-9, which deal with this part of the subject, are felicitous, and also the few pages following. Many sentences, too, are happily put, as, for instance, on p. 40:—"It may here be noted how it is that the organism as a whole secures its excretory stability, namely, by not carrying to the extreme the process of differentiation through which the higher types of tissue have arisen," &c. In another paragraph Dr. Sainsbury estimates in general terms the relative vigour of the communal and individual life of several parts. The chapter on diet, again, is good, especially the discussion on alcohol.

We must be forgiven if, in conclusion, we express the opinion that, in one respect at any rate, the author has not been watchful, namely, to counteract that tendency to flatness or dilution of thought which we have said is almost inseparable from speculative contemplations, and to endeavour to prevent prosiness and vagueness, by apt and penetrating phrases and instances. The quotations, which are made with some profusion, many of them bits of Latin, should have been fresh and "inevitable," but Dr. Sainsbury has not gone out of his way to seek for telling quotations. Almost all of them are well-worn "tags"; some are stale indeed. A common sentiment gains nothing by reiteration in Latin; *modus operandi* is no better than "mode of operation," and *non pane solo vivit homo* sounds to us better in our mother tongue. These points may receive attention in the new edition which the book deserves. The volume is well printed, and light in the hand.

T. C. A.

#### OPTICAL INSTRUMENTS.

*Leitfaden der praktischen Optik.* By Dr. Alexander Gleichen. Pp. viii+221. (Leipzig: S. Hirzel, 1906.) Price 5.60 marks.

OF the making of German optical text-books there is no end, and there are perhaps few which do not constitute valuable additions to optical literature. The present volume, however, does not pretend to furnish new material, and it is improbable that it will be found of any special interest to opticians in this country. It is, indeed, not easy to gather for what class of reader the work has been designed. The preface suggests that the mathematical knowledge assumed in the ordinary treatises on optical instruments is usually lacking to the practical optician, and that it seemed a not altogether useless task to explain the principles of the theory of optical instruments, their construction and design, on the basis of an acquaintance with mathematics not extending beyond the first elements of algebra. Thus should the practical optician be provided with matter he could digest and the student with a stepping-stone to the treatises aforesaid, not the least useful among which are the author's own "*Lehrbuch der geometrischen Optik*" and his text-books on special departments of optics.